

More equity for firms – Poland ACE versus Italian/Belgium ACE – too small to be relevant ?

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ABSTRACT:

Objective: This article assesses the impact of the allowance of corporate equity (ACE) in Poland on the tax-induced debt bias. The tax-induced debt bias is based on the fact that the fiscal system “subsidises” debt, as its cost, the interest, is tax-deductible. As a consequence, debt is more interesting than equity. ACE tends to balance out this kind of case. Compared to Italy and Belgium where the ACE is in force for a longer period of time, Poland has introduced it in 2019 and has also limited its amount to PLN 250,000 in a tax year. The impact of the reform on the level of equity and debt for firms will be appreciated.

Methods: To evaluate the impact of the ACE in Poland, Polish firms’ data from the BACH database over six years, from 2015 to 2021, is subject to analysis. Three criteria are analysed: the impact on equity as a percentage of total balance sheet assets (1), the impact on the Net debt (2) and the impact on the financial debt (3).

Results: With regard to the level of equity, the reform in Poland does not reach the expected result, as the ratio has decreased for almost all firms. In any case, Poland has still the higher level of equity compared to Belgium/Italy.

With regard to debt, for both net debt and financial debt, a decrease is observed for all countries and in that case also, Poland has the “best picture” with a lower level. As a result of the reform, Polish firms have not increased their equity nor their debt. It seems that the reform does not have a real effect on Polish firms.

Conclusions: The ACE in Poland with a limited threshold of PLN 250,000 appears to be too small to be indeed a game changer in the firms’ behaviour. Even if Poland’s level of Equity and level of debt is still lower compared to those in Belgium or in Italy, a higher level of the threshold or a less restrictive one must be implemented if the equity needs to be enhanced.

I. INTRODUCTION

Most corporate tax systems do not treat debt and equity equally. The tax-induced debt bias refers to tax systems that encourage corporate debt finance over equity finance. Popular in tax law, “such bias is deeply rooted and hard to overcome... The debt-equity distinction is a real-world problem that academics simply cannot ignore¹”.

Why such bias is problematic?

It is problematic due to at least two reasons. The first one is quite obvious. It gives a clear and direct incentive for the use of debt. High leverage in companies means a stronger systemic risk in the economy. With more debt, firms are “more vulnerable to shocks and so increased both the likelihood and intensity of financial crises”². More corporate debt levels make the economy more vulnerable to shocks (Cecchetti and al. (2011³)) and also harm employment (Giroud & Mueller (2017⁴)). The second reason is that it exacerbates some harmful practices like the research of profit shifting activities mainly through the use of internal debt (intra-firm loans). Feld, Heckemeyer, and Overesch (2013⁵) synthesize 46 previous studies and make conclusion that “capital structure choices are indeed positively affected through taxes. The effect is also quantitatively important... the debt-to-assets ratio rises by 3

¹Benshalom, I., (2010). “How to live with a tax code with which you disagree: doctrine, optimal tax, common sense, and the debt-equity distinction (May 1, 2010)”. North Carolina Law Review, Vol. 88, No. 4, pp. 1217-1273.

²De Mooij, R.A., Keen, M., Orihara, M. (2013). “Taxation, bank leverage, and financial crises”. IMF Working Paper No. 13/48.

³Cecchetti, S.G., Mohanty, M.S. & Zampolli, F., (2011). “The Real Effects of Debt”. BIS Working Papers, No 352, 2011.

⁴Giroud, X. & Mueller, H., (2017). “Firm Leverage, Consumer Demand, and Employment Losses During the Great Recession”. The Quarterly Journal of Economics. 132. 271-316.

⁵Feld, L., Herckemeyer, J., and Overesch, M., (2011). “Capital structure choice and company taxation: a meta-study”. CESifo Working Paper, no. 3400, March.

percentage points if the simulated marginal tax rate increases by 10 percentage points”.

The problem is that too much debt is risky. After the last financial crises, Klein (2010⁶) showed that “the banks that survived the crisis best, like J.P. Morgan, had the lowest levels of leverage”. Recently, the first reason for the bankruptcy of Toys R Us in 2018 was that “the company’s debts were too much to bear”⁷. In the United Kingdom, in 2018, the collapse of the second-largest construction firm, Carillion, was caused by its incapacity to manage and reimburse its USD 1.35 billion in debt. The situation was very mediatized because the company was the government’s biggest contractor. Liquidation of the company threatens directly more than 19,000 job places and their company’s pension fund and indirectly the solvency of several subcontractors and smaller businesses. In that case, the State had to intervene directly through a government-backed pension protection plan, which proves that too much debt of companies could create a real threat and huge social costs at the country scale. The result could be dramatic at the country scale as it was shown by the situation in Europe with Greece⁸.

The debt bias favors debt, which could be overused and could increase the systemic risk at the country scale. At the same time, firms could use internal debt for the only purpose of profit shifting. In the case of financial crises, it means, in the end, less financial resource for the state in case of a necessary intervention.

With regard to equity, the situation is completely different. Having too much equity is not itself as dangerous as having too much debt. The comparison between the dotcom bubble crisis in 2001 and the financial crisis in 2008, which means the comparison between an equity crisis with a non-huge impact of debt and a debt crisis, reveals that the latter had more serious consequences than the former. That is why, an American central banker at that time, Timothy Geithner, has declared: “the top three things to get done are

capital, capital, and capital”⁹. Therefore, the question is how to strengthen equity?

In general, equity faces a consubstantial issue: it could be less attractive as it gives no guarantee of the return. The one it reaches is the only one among many possible. With debt, on the contrary, there is a guarantee in advance of the return (except in case of default of course). Equity is also less attractive as it does not give a tax advantage compared to debt. Funding a project by equity (retained earnings or new shares issued) means that the investment should generate a higher pre-tax return to provide the same required rate of return after payment of the corporate income tax (CIT). Such lack of tax advantage is quite popular but not everywhere. Some countries, like Belgium and Italy, favor equity also with the grant of an allowance of corporate equity (ACE), as an additional tax-deductible allowance. As of 1 January 2019, a new mechanism has been introduced in Poland and it has been applied since 2020. The fiscal law has recognized a Notional Interest Deduction (NID) limited to PLN 250,000 in a tax year. Firms could now on deduct from the taxable base the hypothetical costs of obtaining external capital in the form of additional payments to capital or retained profits in the case the company receives funding. The above-mentioned rules, called “**the reform**” in the following analysis, are to apply from 1 January 2020, with capital contributions made and retained profits from 2019.

II. LITERATURE REVIEW

According to DeAngelo and Roll (2015¹⁰), “capital-structure stability is the exception”. Depending on the cycle and the environment, firms adapt in consequence their capital structure.

Discussing capital structure means to remind the first statement of Modigliani and Miller (1958¹¹) who proved that under the assumptions of a perfect capital market, there was no optimal debt to equity ratio. However, in 1963¹², with the effect of taxation, Modigliani and Miller pointed out that

⁶Klein, E., (2010). “Explaining Financial Regulation: Leverage and Capital Requirements”, WASHINGTON POST.COM (Apr. 19, 2010, 11:33 AM)”. <http://voices.washingtonpost.com/ezra-klein/2010/04/explaining-financial-regulation.html> accessed on 2018-08-01.

⁷Bomey, N., (2018). “5 reasons Toys R Us failed to survive bankruptcy”. USA TODAY Published 1:35 PM EDT Mar 18, 2018.

⁸Alogoskoufis, G., (2012). “Greece’s sovereign debt crisis: retrospect and prospect”. Greece papers, 54. London School of Economics and Political Science, Hellenic Observatory, London, UK.

⁹Klein, E., (2010). “Explaining Financial Regulation: Leverage and Capital Requirements”, WASHINGTON POST.COM (Apr. 19, 2010, 11:33 AM)”. <http://voices.washingtonpost.com/ezra-klein/2010/04/explaining-financial-regulation.html> accessed on 2018-08-01.

¹⁰DeAngelo, H. & Roll, R., (2015). “How stable are corporate capital structures?”. The journal of finance, 70: 373–418.

¹¹Modigliani, F. and Miller, M.H., (1958). “The cost of capital, corporation finance and the theory of investment”. The American Economic Review 48, No. 3 (1958), pp. 261-97.

¹²Modigliani, F. and Miller, M.H., (1963). “Corporate income taxes and the cost of capital: a correction”. The American Economic Review, Vol. 53, No. 3 (Jun., 1963), pp. 433-443.

“the value of the firm can be increased by the use of debt since interest payments can be deducted from taxable corporate income¹³”. Those statements were the starting point of plenty of analyses to find the optimal capital structure of firms. For some authors, the decision to increase or decrease debt financing is explained by a trade-off between tax shielding and financial distress (Kraus and Litzenberg (1973)¹⁴, Scott (1976)¹⁵ and Kim (1978)¹⁶). The pecking order theory associates the decision of funding on the assumption of information asymmetry: firms will finance where possible with internal capital, then with debt and finally equity (Myers and Majluf (1984)¹⁷). The market timing theory links the decision of funding to market values of debt and equity (Baker and Wurgler, (2002)¹⁸). More modern theories have emerged: the peer firm effect with Leary and Roberts (2014)¹⁹ who show that “firms’ financing decisions are responses to the financing decisions and, to a lesser extent, the characteristics of peer firms” or Donghyun & Qinghai & Xiaoqiong (2021)²⁰ who show that firms located in states with strong institutional investor presence are more likely to issue equity than debt for financing needs, and local institutions hold more of the newly issued equity.

From all those theories, the general tax advantage of debt is a constant one.

Debt financing is an act of raising capital like equity financing. The difference is that with

debt, money is borrowed from a lender or a bank within return for a loan, interest on the money borrowed. Debt has also real advantages as already discussed. “For more than 2,000 years, debt has been an invaluable means of funding the investments required for economic development”²¹. Debt has generally lower fees, avoids dilution of ownership and has no signalling issues of equity issuance (debt has a positive signalling effect (Ross 1977²², Leland and Pyle 1977²³, Heinkel 1982²⁴, and Frydenberg 2004²⁵). Moreover, the tax discriminates debt and equity. The discrimination originates from accounting principles where interests are considered as a cost of running business and equity on the opposite is a return, a kind of reward for the owner. The original rationale to allow a deduction for the only debt has no full economic sense as the return to equity or to debt represents a return to capital and there is no a priori reason to tax one differently from the other. As noted by the European Commission (2015)²⁶, the debt bias is a real incentive for firms to rely on debt and bank financing, which means at the end turbulences to macroeconomic stability and growth.

Equity is less attractive because equity does not give a tax advantage compared to debt. Against that, some countries like Belgium and Italy have decided to favor equity also and to equalize the report between them with the grant of an allowance of corporate equity (ACE), as an additional tax-deductible allowance. Poland has decided to implement such solution as well.

In the literature, the origin of such mechanism could be found in Boadway and Bruce²⁷ who suggest an allowance for corporate

¹³Miller, M.H., (1977). “*Debt and Taxes*”. The Journal of Finance, Vol. 32, No. 2, Papers and Proceedings of the Thirty-Fifth Annual Meeting of the American Finance Association, Atlantic City, New Jersey, 16-18 September, 1976. (May, 1977), pp. 261-275.

¹⁴Kraus, A. & Litzenberger, R.H., (1973). “*A state-preference model of optimal financial leverage*”. Journal of Finance, American Finance Association, vol. 28(4), pp. 911-922, September.

¹⁵Scott, Jr. J.H., (1976). “*A theory of optimal capital structure*”. Bell Journal of Economics, The RAND Corporation, vol. 7(1), pp. 33-54, Spring.

¹⁶Kim, E.H., (1978). “*A mean-variance theory of optimal capital structure and corporate debt capacity*”. Journal of Finance, American Finance Association, vol. 33(1), pp. 45-63, March.

¹⁷Myers, S. C. & Majluf, N.S., (1984). “*Corporate financing and investment decisions when firms have information that investors do not have*”. Journal of Financial Economics, Elsevier, vol. 13(2), pp. 187-221, June.

¹⁸Baker, M., & Wurgler, J. (2002). “*Market Timing and Capital Structure*”. Journal of Finance, 57(1), February 2002, pp. 1-32.

¹⁹Mark, T.L. & Michael, R.R., (2014). “*Do peer firms affect corporate financial policy?*”. Journal of Finance, American Finance Association, vol. 69(1), pp. 139-178, February.

²⁰Kim, Donghyun & Wang, Qinghai & Wang, Xiaoqiong. (2021). “*Geographic Clustering of Institutional Investors*”. Journal of Financial Economics. 144. 10.1016/j.jfineco.2021.08.011.

²¹Dobbs, R., Lund, S., Woetzel, J. & Mutafchieva, M., (2015). “*Debt and (not much) deleveraging*”. McKinsey global institute. <https://www.mckinsey.com/featured-insights/employment-and-growth/debt-and-not-much-deleveraging> accessed on 2018-09-02.

²²Ross, S.A., 1977. “*The determination of financial structure: The incentive signalling approach*”. Bell Journal of Economics 8, pp. 23-40.

²³Leland, H. and Pyle, D., (1977). “*Information asymmetries, financial structure, and financial Intermediation*”. Journal of Finance 32, 371-388.

²⁴Heinkel, R., (1982). “*A theory of capital structure relevance under imperfect information*”. Journal of Finance 37, pp. 1141-1150.

²⁵Frydenberg, S. (2004). “*Determinants of Corporate Capital Structure of Norwegian Manufacturing Firms*”. Trondheim Business School Working Paper No. 1999:6. <https://doi.org/10.2139/ssrn.556634>

²⁶European Commission, (2015). “*Action Plan on Building a Capital Markets Union*”. http://ec.europa.eu/finance/capital-markets-union/docs/building-cmu-economic-analysis_en.pdf accessed on 2018-09-22.

²⁷Boadway, R.W. & Bruce, N.D.B., (1984). “*A general proposition on the design of a neutral business tax*”. 24(2) Journal of Public Economics 231.

capital (ACC) as a tool for a neutral corporate tax system towards investment financing decisions. With an ACC, no more fiscal distinction between debt and equity as the tax policy will recognize a return on the company's total capital.

ACE is a derivative of an ACC and was originally proposed in 1991 by the Capital Taxes Committee of the Institute for Fiscal Studies. The report published by the Committee under the chairmanship of James Mirrlees presents the ACE as one of tools of "a good tax system for any open developed economy in the 21st century"²⁸. With an ACE, the logic is the same, a deduction is recognised against corporate profits. However, the difference is that an ACE does not apply to the overall cost of capital but "just" allows a return on equity in addition to the current deductibility of interest. With an ACE, debt and equity still need to be distinguished.

ACE allowance is obtained by multiplying the closing stock by an imputed return. The closing stock is the addition of the opening stock to the equity issued and the retained profits (taxable profits – ACE allowance – CIT – dividends) and the deduction of equity purchased or repurchased. The appropriate notional return of the ACE is the rate on government bonds as a risk-free nominal interest rate (Bond and Devereux, 1995²⁹). It represents the opportunity cost of capital and it is the same for all companies. With the ACE, the opportunity cost of capital is not subject to a tax.

According to the literature, the main target of an ACE system is reached: a reduction of the debt incentive for firms. Santoro (2005³⁰) observes that firms are likely to issue equity to benefit from the ACE and that is stronger for large and profitable firms compared to small firms. Keuschnigg and Dietz (2007³¹) assess the ACE in Switzerland and observe a decline in the debt/asset ratio by 3.8% and a raise in investment by 7.8%. With regard to obtaining neutrality between debt and equity, Mooij and Devereux (2011³²) show that

on average, the debt share falls by 4.7% and the investment raises by 6.3% due to the reduction in the cost of capital by 0.5%. Princen (2012³³) finds a positive impact with her estimated results. She observes that with an equal tax treatment of debt and equity, on average between 2-7% less debt is reached and it is significant at the 1% level. Panteghini and al. (2012³⁴) show that the Italian ACE has 2 aims according to the Italian Government: a reduction of firm tax liabilities with more growth generated and a rebalancing of firm capital structure. In fact, Italian companies are "relatively high" leverage compared to others European firms. Towards such objectives, the authors consider that "we can therefore say that...ACE is a step in the right direction, as it encourages firms to reduce leverage and therefore cut systemic risk".

In 2015³⁵, Hebous and Ruf obtain a reduction of the total debt ratio by approximately 3.5% – 5% on average. Regarding investment, they do not find significant effects for production investment but some positive effects for passive investment. In 2015³⁶ also, Panier and al. show that following Belgium ACE, increase in the equity ratios for both firms, incumbent and new ones is observed. Such increase in equity is mainly explained by "higher equity levels and not by a reduction in non-equity liabilities".

More recently, Petutschnig M. & R nger S. (2022³⁷) analyse the ACE in Austria and found that for every 1 euro increase in equity, the tax benefit amounted to from 0.441 to 0.558 cents. On average, Austrian firms increase their equity ratios by approximately 1.36 to 2.30 percentage points after the introduction of the ACE tax system compared to firms in Sweden or Belgium.

²⁸Mirrlees, J., Adam, S., Besley, T., Blundell, R., Bond, S., Chote, R., Gammie, M., Johnson, P., Myles, G. & Poterba, J. (2011). "Tax by Design: The Mirrlees Review". Oxford University Press, Oxford, UK.

²⁹Bond, S.R. & Devereux, M.P., (1995). "On the design of a neutral business tax under uncertainty". Journal of Public Economics, Vol. 58, pp. 57–71.

³⁰Santoro A., (2005). "Ex-post evaluation of tax reforms: the case of the Italian Partial ACE". (Paper presented at XII Meeting of Public Economy, Assessment of Public Policies: Palma de Mallorca, 3–4 February 2005).

³¹Keuschnigg C. & Dietz M.D., (2007). "A growth oriented dual income tax". International Tax and Public Finance, 14, 191–221.

³²De Mooij R.A. & Devereux M.P., (2011). "An applied analysis of ACE and CBIT reforms in the EU". 18(1) International Tax and Public Finance 93, 98.

³³Princen S., (2012). "Taxes Do Affect Corporate Financing Decisions: The Case of Belgian ACE". CESifo Working Paper No. 3713, Munich.

³⁴Panteghini, P., Parisi, M.L. & Pighetti, F., (2012). "Italy's ACE Tax and Its Effect on a Firm's Leverage". CESifo Working Paper Nr. 3869, Munich.

³⁵Hebous, S. & Ruf, M., (2015). "Evaluating the Effects of ACE Systems on Multinational Debt Financing and Investment". CESifo Working Paper Series 5360, CESifo Group Munich.

³⁶Panier, F., Perez-Gonzalez, F. & Villanueva, P., (2013). "Capital structure and taxes: what happens when you (also) subsidize equity?" Working paper, Stanford University, Stanford, CA.

[http://www.premiojfa.org/uploads/2013/Capital_Structure_and_Taxes_What_Happens_When_You_\(Also\)_Subsidize_Equity.pdf](http://www.premiojfa.org/uploads/2013/Capital_Structure_and_Taxes_What_Happens_When_You_(Also)_Subsidize_Equity.pdf) accessed on 21-03-2017.

³⁷Petutschnig M. & R nger S., (2022). "The Effect of an Allowance for Corporate Equity on Capital Structure: Evidence From Austria". Public Finance Review, vol. 50(5), pages 597-642, September.

Kumar and al. (2022³⁸) imagine an ACE in Australia and show that it is the solution to promote investments and growth especially towards SME because “it would allow them a deduction on equity even in the absence of access to debt markets”. In respect of a debt, Kock and Gerard (2018³⁹) found that financial leverage of Italian and Portuguese firms decreased by 1% - 2% in response to the introduction of an ACE mechanism in those countries.

The purpose of the article is to make comparison between ACE in Belgium/Italy and Poland before its ACE and after the implementation of its version of ACE to check if the target of the new Polish fiscal law is reached.

Research method

The BACH database (www.bach.banque-france.fr) is used for empirical observations. The period analysed is six years, from 2015 to 2021 and analysis included three countries: Belgium, Italy and Poland. As the website states, “the data are based on the annual statistical financial statements collected by Central Statistical Office. The survey comprises enterprises of more than 9 employees”. The analysis is narrowed by the size of firms. Small firms (turnover <€10 million) are distinguished from medium-sized firms (€10 million ≤ turnover <€50 million) and from large firms (turnover ≥ €50 million). SMEs cover firms with turnover <€50 million.

The research method is based on real firms’ data according to their size to get more precise observations and to adjust the ACE impact which differs between SMEs and non SMEs.

The database is cleaned with 16 sectors selected when such data is available for each country and for each size of firms for such period.

The 16 sectors are the following :

Accommodation and food service activities
Administrative and support service activities
Agriculture, forestry and fishing
Arts, entertainment and recreation

Construction

Electricity, gas, steam and air conditioning supply

Human health and social work services

Information and communication

Manufacturing

Mining and quarrying

Other service activities

Real estate activities

Total M (without M701)

Transportation and storage

Water supply, sewerage, waste management and remediation act.

Wholesale and retail trade; repair of motor vehicles and motorcycles

Historically, several countries had experience with an ACE, Austria from 2000 to 2004, Croatia from 1994 to 2000, Latvia from 2009 to 2013. However, only present experiences in Belgium and in Italy are analysed because they are currently in operations and they are in Europe. In Belgium, the name of the ACE is a «notional interest deduction» enabling all companies subject to Belgian corporate tax to deduct from their taxable income a fictitious interest calculated on the basis of their shareholder’s equity (net assets). In Italy, the Allowance for Corporate Equity is also known as Notional Interest Deduction - NID, and it is a tax incentive introduced to promote the recapitalization of undertakings and to mitigate the different tax treatment applied to companies funded with debt and others funded with equity. The Ace benefit entails a notional deduction from corporate income taxable base; the deduction corresponds to the net increase in the “new equity” employed in the entity, multiplied by a rate yearly determined annually.

The research method is based on the comparison between Poland (before and after its ACE’s reform) and Belgium and Italy, which are European countries with a longer experience of the ACE.

Three financial ratios are observed and compared between those three countries.

- The first one is the equity as a percentage of total balance sheet assets (**ratio 1a**). By equity, “capital, reserves, earnings and other equity instruments” are taken into account. In the Bach database, the following definition of that item is provided: “includes paid capital, reserves, treasury stock and other equity instruments. Subscribed capital but not paid is deducted from this item. This item also includes the cumulative net income of prior

³⁸Kayis-Kumar A., Rose T. & Breunig R, (2022). “Design considerations for an Allowance for Corporate Equity (ACE) for Australia”. The Tax and Transfer Policy Institute (TTPi), Working paper no. 03/2022.

³⁹Kock, J., and Gérard, M., (2018). “The Allowance for Corporate Equity in Europe: Latvia, Italy and Portugal: First Draft”. Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association 111 (2018): 1–40. <https://www.jstor.org/stable/26939390>.

periods, the net income for the period as well as dividends paid in advance". It is expressed in % as total balance sheet assets. "Revaluations, adjustments on financial investments and other comprehensive income" are excluded because they could be highly different between countries and could depend also on the market.

A second ratio is also subject to analysis, the equity minus the result of the year as a percentage of total balance sheet assets (**ratio 1b**). The purpose here is to isolate the variation of the equity by the result of the year which could explain a change.

- The second is the Net debt as a sum of Short-Term Debt and Long-Term Debt minus Cash and Equivalents (**ratio 2a**). In the Bach database, the following definition of that item is given: "includes bonds and similar obligations, amounts owed to credit institutions, other creditors, trade payables, payments received on account of orders, current, deferred liabilities minus other financial assets, current and minus cash and bank". It is a financial liquidity metric which measures the ability of firms to pay their debts on time as if they were due today. It is a very useful metric when assessing the financial standing of firms. It is expressed in % as total balance sheet assets. A second ratio is also analyzed, the same ratio but based on the difference between current and non-current part (**ratio 2b**).

The purpose of the analysis is to note the firms' behavior towards the net debt when the equity is favored by the fiscal law.

- The third and the last one is the financial debt as the sum of amounts owed to credit institutions added to other financial creditors and added to bonds and similar obligations (**ratio 3a**). The first category includes "debt of the entity vis-à-vis credit institutions (includes

financial leasing)". The second contains "the remaining funding from other financial creditors not identified, mainly intra-group debt". The last one is the sum of "bonds and similar securities issued by the entity". It is expressed in % as total balance sheet assets. A second ratio is also analyzed, the same ratio but based on the difference between current and non-current part (**ratio 3b**).

The purpose of the analysis is to note the firms' behaviour towards the financial debt when the equity is favored by the fiscal law.

The research method is based on the comparison of three financial ratios to measure the impact of the ACE on the capital structure of firms in those three countries. The aim of the research method is to show that due to the ACE, firms will gain more stability due to more equity, lower ratio of net debt and financial debt and at the end, a stronger ability to survive.

III. RESEARCH RESULT

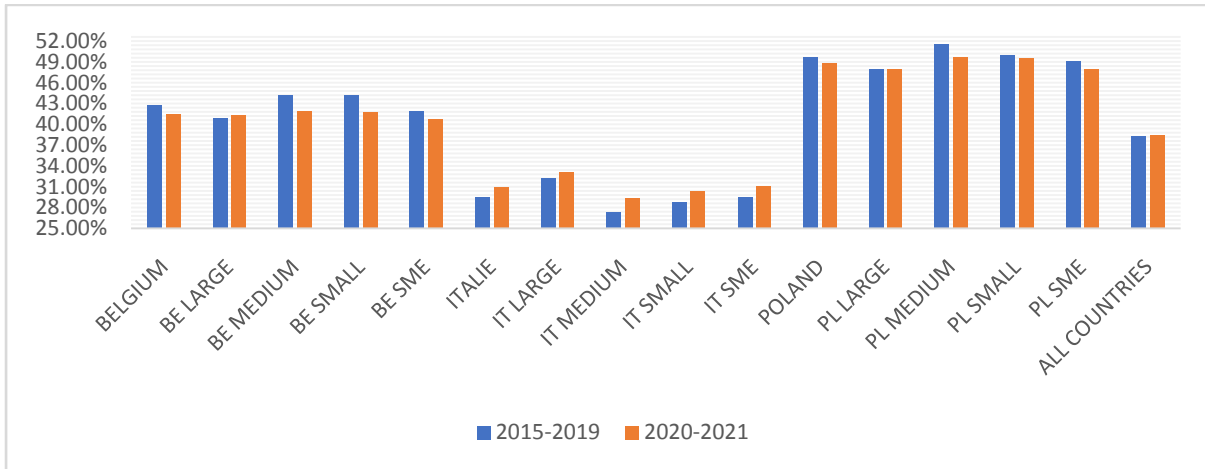
- **Impact of the reform on the equity**
 1. **Equity with result of the year**

The first ratio analysed is the ratio of the equity as a percentage of total balance sheet assets (**ratio 1a**). The hypothesis is that the ratio has increased from 2020/2021 compared to previous years due to the impact of the reform. However, the observation is different. The ratio has decreased for Poland. Looking into the details, the observation works for small, medium and SME but not for large companies. It looks like that the reform has worked only for large firms.

The situation for Belgium is exactly the same.

On the contrary, for Italy, the equity has increased and it is true for all categories of firms. However, based on comparison between countries, Italy has the lowest rate and it is true for all firms, followed by Belgium and Poland, before and after the reform.

Table 1: Ratio 1a per country per company sizes (average from 2015 to 2021)

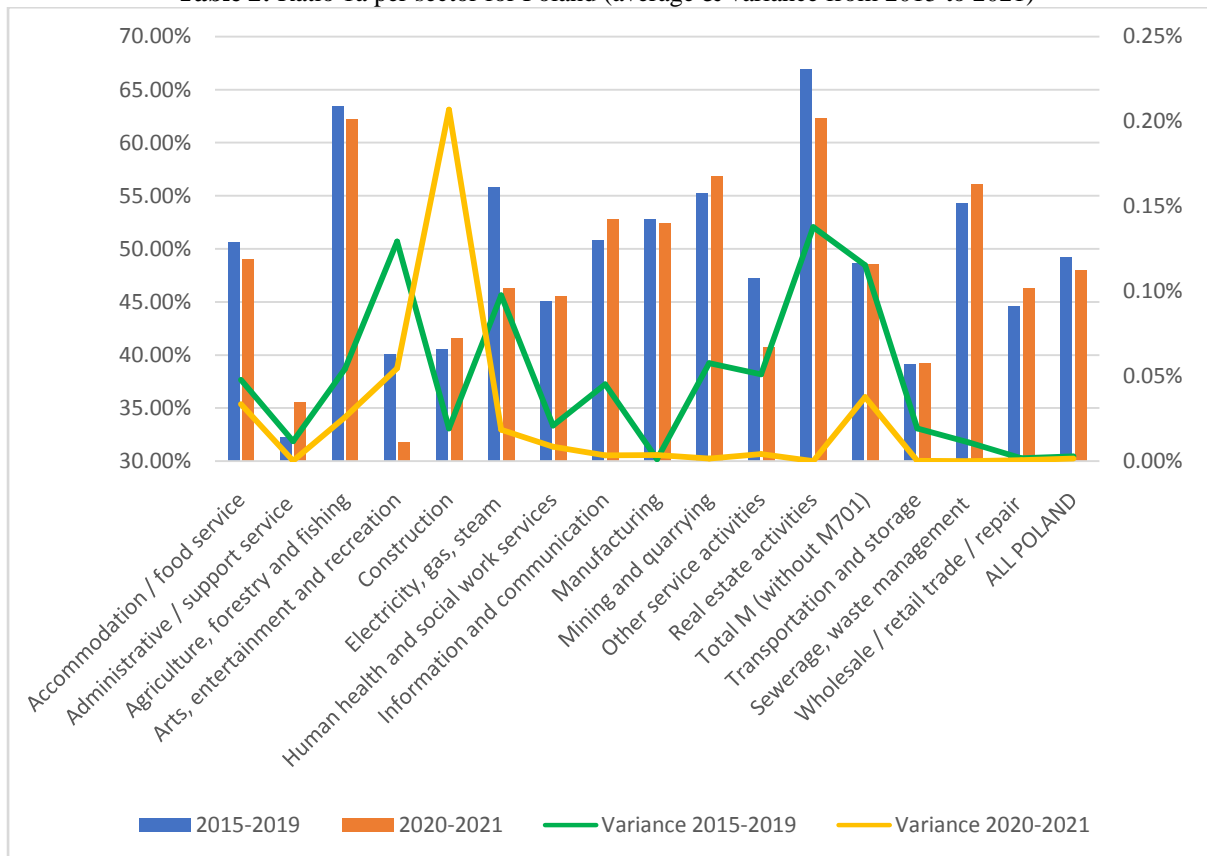


Source: prepared by the author

Then the analysis is done per sectors for Poland only. The decrease is observed for 8 sectors, therefore half of sectors has noted an increase. It is true for non-capitalistic sector, such as “administrative and support service activities” or “arts, entertainment and recreation” and capitalistic ones, such as “manufacturing” or “electricity, gas, steam and air conditioning supply”.

In terms of variances, only two sectors encounter an increase, the “construction” sector and the “manufacturing” sector. For the rest, a decrease is observed, meaning that the reform has induced a trend of greater stability.

Table 2: Ratio 1a per sector for Poland (average & variance from 2015 to 2021)



Source: prepared by the author

Looking at the sector with a decrease according to firms' size, it appears that the size does not matter.

Table 3: Ratio 1a per sector for Poland according to firms' size (average from 2015 to 2021)

Sector	Size	AVERAGE	2015-2018	2019-2021	Evolution
Accommodation and food service activities	LARGE	66,93%	65,26%	69,15%	3,89%
	MEDIUM	42,59%	43,55%	41,31%	-2,23%
	SMALL	43,96%	44,79%	42,85%	-1,94%
	SME	50,11%	50,23%	49,97%	-0,26%
Accommodation and food service activities Total		50,11%	50,56%	49,00%	-1,56%
Agriculture, forestry and fishing	LARGE	63,08%	69,01%	55,16%	-13,85%
	MEDIUM	64,63%	63,05%	66,74%	3,69%
	SMALL	63,83%	62,54%	65,55%	3,01%
	SME	63,09%	63,83%	62,11%	-1,72%
Agriculture, forestry and fishing Total		63,09%	63,43%	62,25%	-1,18%
Arts, entertainment and recreation	LARGE	58,25%	59,84%	56,14%	-3,70%
	MEDIUM	37,88%	39,04%	36,34%	-2,71%
	SMALL	33,60%	35,53%	31,03%	-4,51%
	SME	37,68%	40,23%	34,29%	-5,94%
Arts, entertainment and recreation Total		37,68%	40,04%	31,79%	-8,26%
Electricity, gas, steam and air conditioning supply	LARGE	57,28%	60,49%	53,00%	-7,49%
	MEDIUM	48,51%	50,67%	45,64%	-5,03%
	SMALL	51,84%	53,74%	49,32%	-4,42%
	SME	53,07%	55,51%	49,81%	-5,70%
Electricity, gas, steam and air conditioning supply Total		53,07%	55,76%	46,33%	-9,43%
Manufacturing	LARGE	51,09%	51,27%	50,84%	-0,43%
	MEDIUM	52,09%	52,26%	51,87%	-0,39%
	SMALL	53,36%	53,58%	53,07%	-0,50%
	SME	52,66%	52,86%	52,38%	-0,48%
Manufacturing Total		52,66%	52,75%	52,44%	-0,31%
Other service activities	LARGE	35,02%	37,46%	31,76%	-5,70%
	MEDIUM	40,30%	42,28%	37,66%	-4,62%
	SMALL	48,96%	51,76%	45,22%	-6,54%
	SME	45,38%	47,96%	41,94%	-6,01%
Other service activities Total		45,38%	47,23%	40,75%	-6,48%
Real estate activities	LARGE	65,37%	73,03%	55,16%	-17,87%
	MEDIUM	64,65%	65,53%	63,48%	-2,04%
	SMALL	65,42%	66,12%	64,48%	-1,63%
	SME	65,58%	67,97%	62,39%	-5,58%
Real estate activities Total		65,58%	66,88%	62,30%	-4,58%
Total M (without M701)	LARGE	42,67%	46,32%	37,79%	-8,53%
	MEDIUM	53,03%	53,36%	52,59%	-0,77%
	SMALL	50,73%	50,66%	50,82%	0,16%
	SME	48,61%	49,44%	47,50%	-1,95%
Total M (without M701) Total		48,61%	48,61%	48,60%	-0,01%

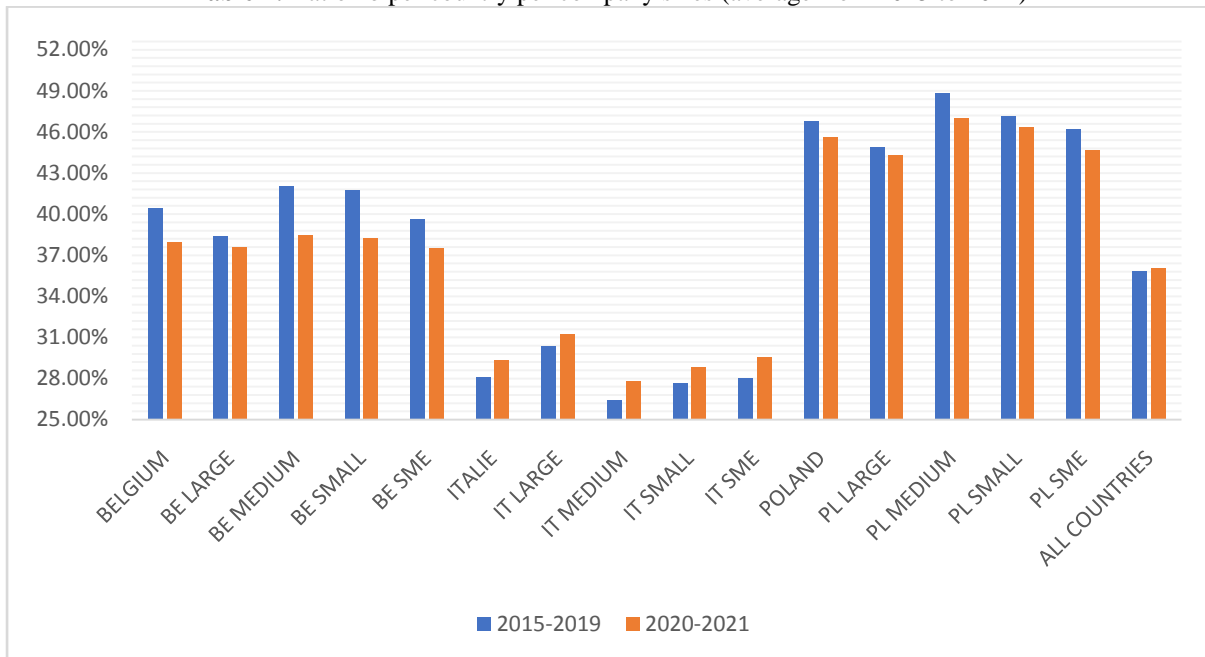
Source: prepared by the author

2. Equity without result of the year

In the next chart, the result of the year is not taken into account in the evolution of the Equity (**ratio 1b**). The purpose is to avoid the impact of the current year in the equity and to focus the analysis on the equity after the decision of the result affectation, which could be, in case of profit, the payment of dividends or the increase of the

reserve. The result is the same and it is even worst for Belgium and Poland as no increase has been observed. For Italy, the observation is the same. In terms of countries, also the observation is the same with a higher rate for Poland, followed by Belgium and Italy.

Table 4: Ratio 1b per country per company sizes (average from 2015 to 2021)

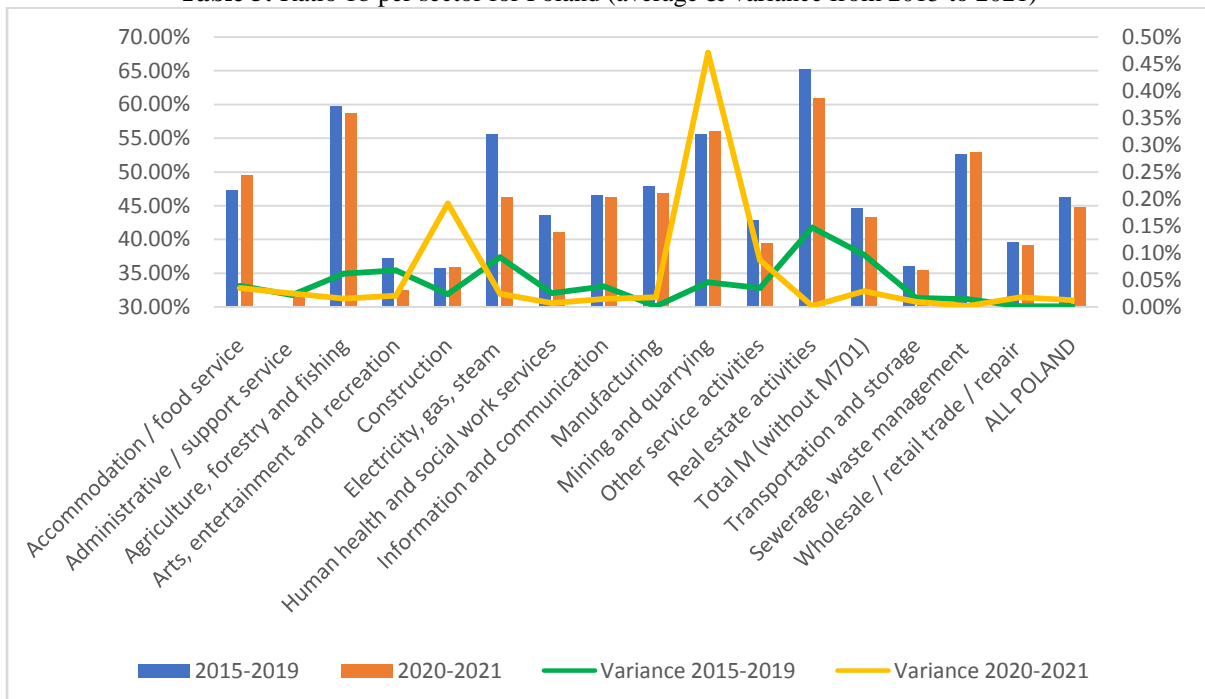


Source: prepared by the author

When the analysis is done per sectors for Poland only, the decrease is also true for most sectors, 11 over 5 with an increase. It is true for non-capitalistic sector like “administrative and support service activities” and capitalistic ones like “Mining and quarrying” or “Construction”.

In terms of variances, more sectors have encountered an increase, 6 sectors. For the rest, 10 sectors, it is a decrease, meaning that the reform has induced a trend of greater stability.

Table 5: Ratio 1b per sector for Poland (average & variance from 2015 to 2021)



Source: prepared by the author

Looking at the sector with a decrease as per firms' size, it appears that the size does not matter.

Table 6: Ratio 1a per sector for Poland according to firms' size (average from 2015 to 2021)

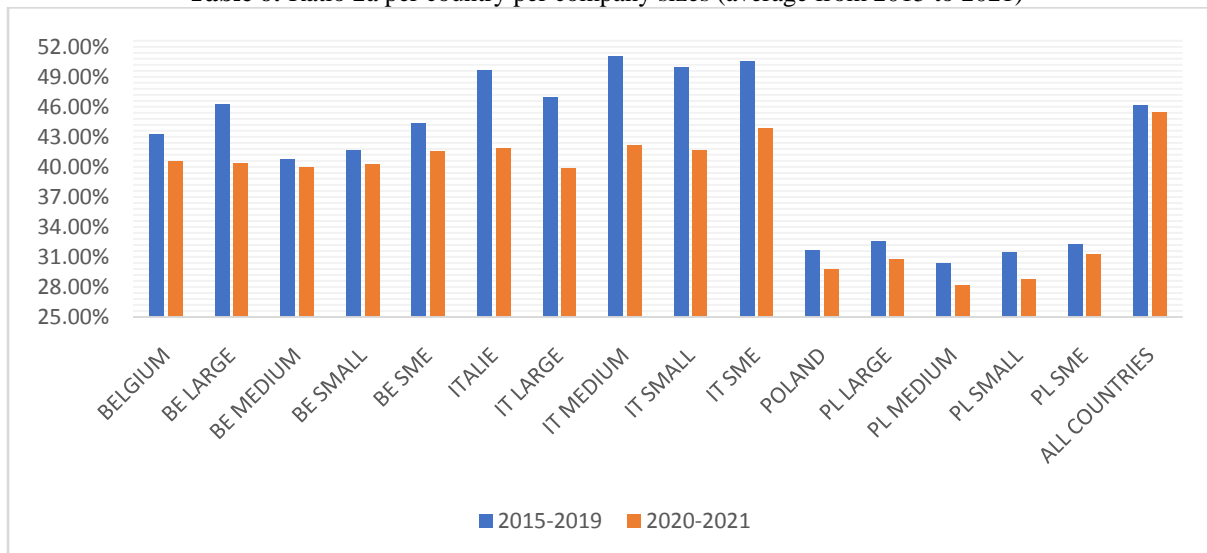
Sector	Size	AVERAGE	2015-2018	2019-2021	Evolution
Agriculture, forestry and fishing	LARGE	61,02%	67,21%	52,77%	-14,44%
	MEDIUM	60,94%	59,69%	62,61%	2,92%
	SMALL	59,82%	58,72%	61,29%	2,57%
	SME	59,38%	60,27%	58,20%	-2,07%
Agriculture, forestry and fishing Total		59,38%	59,64%	58,74%	-0,90%
Arts, entertainment and recreation	LARGE	44,80%	44,89%	44,68%	-0,21%
	MEDIUM	41,54%	41,99%	40,94%	-1,05%
	SMALL	36,18%	37,28%	34,73%	-2,55%
	SME	35,84%	37,37%	33,82%	-3,55%
Arts, entertainment and recreation Total		35,84%	37,21%	32,42%	-4,79%
Electricity, gas, steam and air conditioning supply	LARGE	55,54%	58,54%	51,54%	-7,00%
	MEDIUM	48,58%	50,49%	46,04%	-4,45%
	SMALL	52,20%	53,57%	50,37%	-3,20%
	SME	52,92%	54,81%	50,40%	-4,40%
Electricity, gas, steam and air conditioning supply Total		52,92%	55,57%	46,29%	-9,29%
Human health and social work services	LARGE	39,47%	39,97%	38,80%	-1,17%
	MEDIUM	47,41%	47,15%	47,76%	0,61%
	SMALL	44,02%	44,78%	43,02%	-1,76%
	SME	42,82%	43,48%	41,93%	-1,56%
Human health and social work services Total		42,82%	43,52%	41,06%	-2,46%
Information and communication	LARGE	45,84%	44,30%	47,89%	3,59%
	MEDIUM	47,13%	47,27%	46,94%	-0,33%
	SMALL	46,57%	47,00%	46,01%	-0,99%
	SME	46,41%	46,30%	46,57%	0,27%
Information and communication Total		46,41%	46,50%	46,19%	-0,31%
Manufacturing	LARGE	46,32%	46,22%	46,44%	0,22%
	MEDIUM	46,74%	47,13%	46,21%	-0,92%
	SMALL	48,21%	48,70%	47,55%	-1,16%
	SME	47,58%	47,92%	47,12%	-0,80%
Manufacturing Total		47,58%	47,88%	46,83%	-1,05%
Other service activities	LARGE	31,41%	32,16%	30,41%	-1,75%
	MEDIUM	37,59%	39,13%	35,55%	-3,58%
	SMALL	45,35%	47,28%	42,78%	-4,50%
	SME	41,79%	43,32%	39,76%	-3,56%
Other service activities Total		41,79%	42,77%	39,34%	-3,43%
Real estate activities	LARGE	62,94%	70,09%	53,40%	-16,70%
	MEDIUM	63,58%	64,33%	62,57%	-1,77%
	SMALL	64,14%	64,84%	63,21%	-1,63%
	SME	63,97%	66,25%	60,92%	-5,33%
Real estate activities Total		63,97%	65,22%	60,84%	-4,38%
Total M (without M701)	LARGE	37,49%	42,41%	30,93%	-11,48%
	MEDIUM	49,21%	49,81%	48,41%	-1,40%
	SMALL	46,67%	46,86%	46,42%	-0,45%
	SME	44,24%	45,59%	42,45%	-3,14%
Total M (without M701) Total		44,24%	44,65%	43,23%	-1,42%
Transportation and storage	LARGE	29,61%	30,36%	28,61%	-1,75%
	MEDIUM	40,20%	41,65%	38,28%	-3,37%
	SMALL	37,65%	37,83%	37,41%	-0,43%
	SME	35,83%	36,25%	35,28%	-0,97%
Transportation and storage Total		35,83%	36,03%	35,34%	-0,68%
Wholesale and retail trade; repair of motor vehicles and motorcycles	LARGE	34,80%	35,42%	33,96%	-1,46%
	MEDIUM	42,34%	42,30%	42,41%	0,11%
	SMALL	40,84%	40,72%	41,01%	0,29%
	SME	39,43%	39,48%	39,37%	-0,12%
Wholesale and retail trade; repair of motor vehicles and motorcycles Total		39,43%	39,59%	39,05%	-0,54%

Source: prepared by the author

▪ **Impact of the reform on the level of the Net debt**
1. Net debt (current and non-current part together)

The second ratio is the Net debt as a sum of Short-Term Debt and Long-Term Debt minus Cash and Equivalents (**ratio 2a**). The observation is the same for all countries and for all categories of firms: a decrease.

Table 6: Ratio 2a per country per company sizes (average from 2015 to 2021)

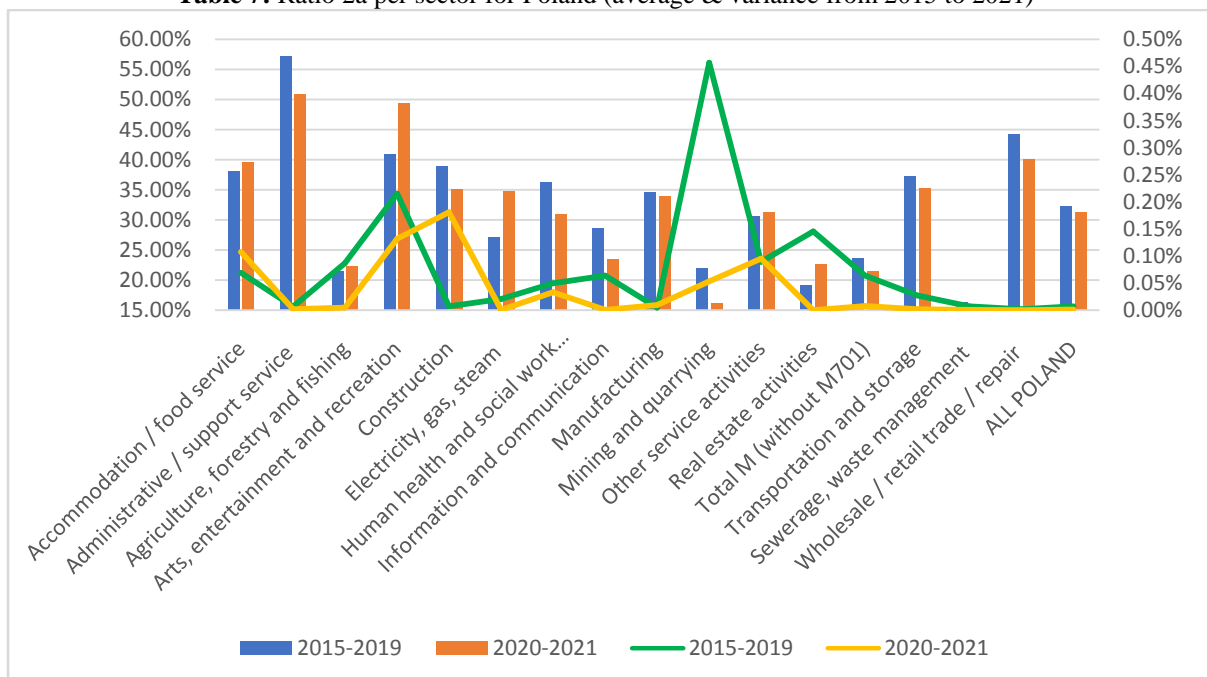


Source: prepared by the author

When the analysis is done per sectors for Poland only, the decrease is also true for most sectors, 10 over 6. It is true for non-capitalistic sector like “Arts, entertainment and recreation”.

In terms of variances, more sectors have encountered also a decrease, 12 sectors, meaning that a trend of greater stability is observed.

Table 7: Ratio 2a per sector for Poland (average & variance from 2015 to 2021)



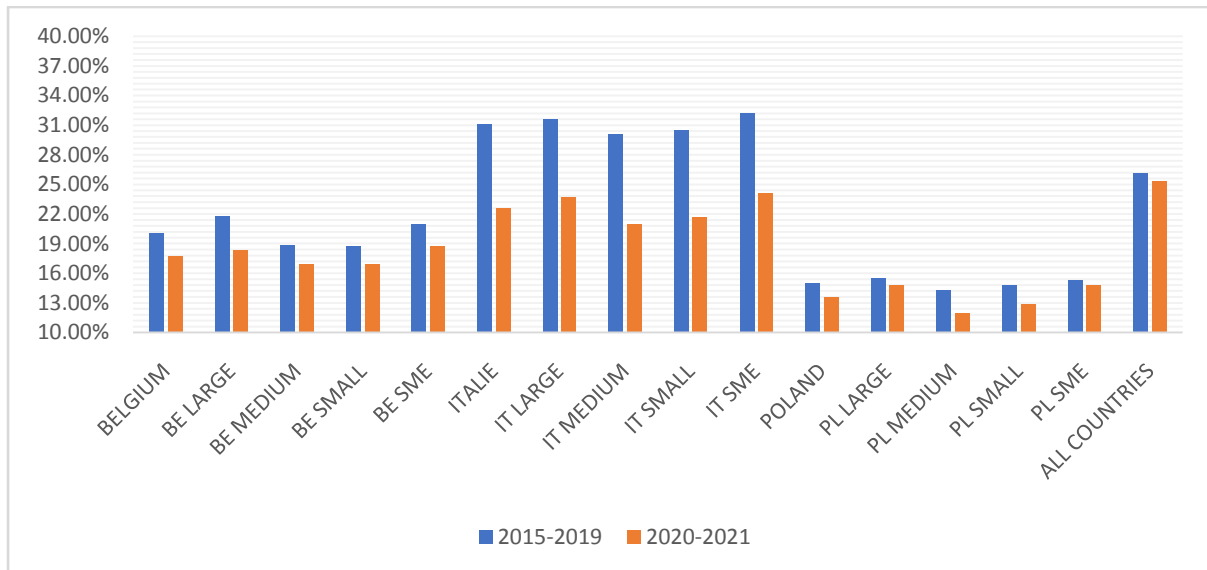
Source: prepared by the author

2. Net debt (split between current and non-current part)

It is more interesting when the ratio is split between current net debt (**ratio 2b**) and non-current (**ratio 2c**).

For the current part, the observation is the same. A decrease for all countries and for all firms – despite their size.

Table 8: Ratio 2b per country per company sizes (average from 2015 to 2021)

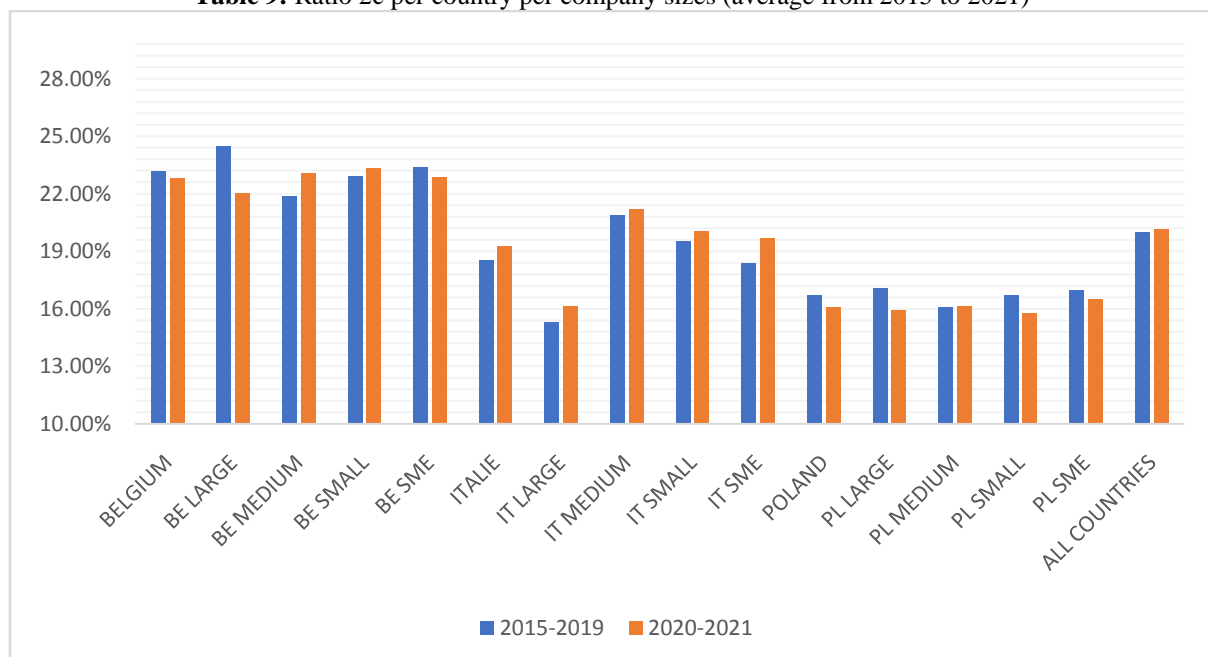


Source: prepared by the author

For the non-current part, the picture is different. Only for Italy, an increase is observed and it is true for all categories of firms. For

Belgium, the increase is observed for small and medium firms. For Poland, the increase is noted for medium firms as well but only for medium firms.

Table 9: Ratio 2c per country per company sizes (average from 2015 to 2021)



Source: prepared by the author

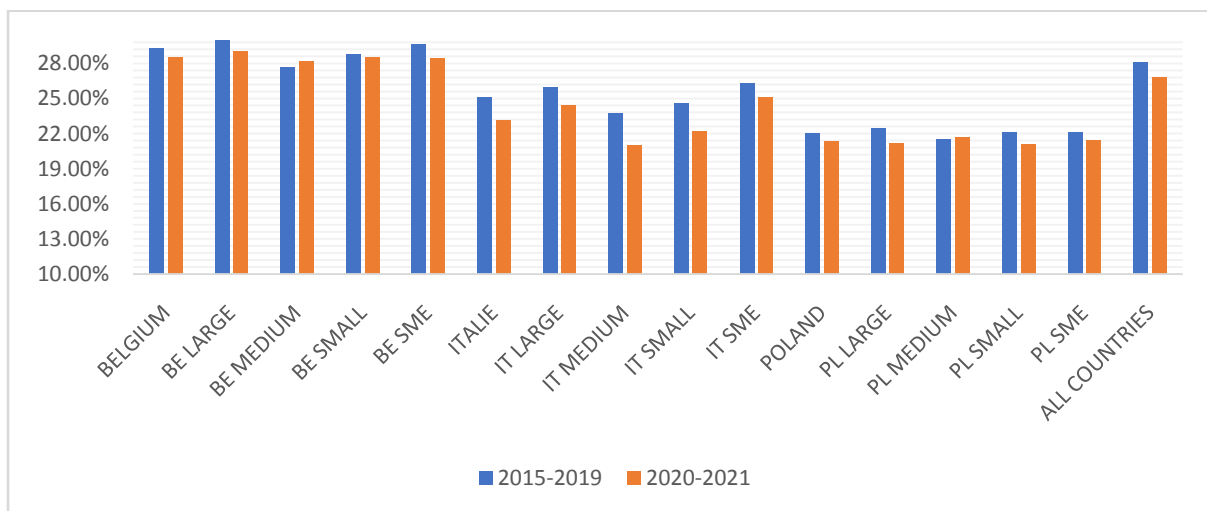
▪ **Impact of the reform on the level of the financial debt**

1. Financial debt (current and non-current part together)

With a focus only on the financial debt, the same observation is revealed (ratio 3a). For all

countries, a decrease is observed. With regard to firms' size, a difference is observed for both Belgium and Poland and medium firms where an increase is surprisingly noted.

Table 10: Ratio 3a per country per company sizes (average from 2015 to 2021)

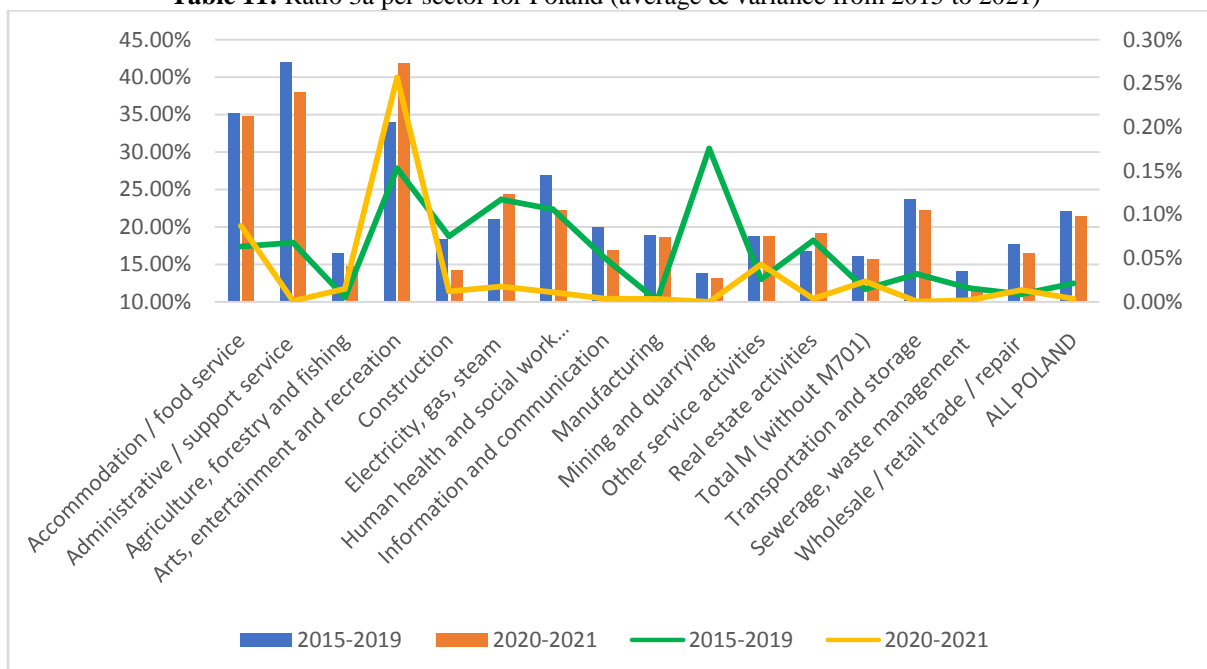


Source: prepared by the author

When the analysis is done per sectors for Poland only, the decrease is also true for most sectors, 12 over 4. It is true for non-capitalistic sector like "Arts, entertainment and recreation".

In terms of variances, more sectors have encountered also a decrease, 9 sectors, meaning that a trend of greater stability is observed.

Table 11: Ratio 3a per sector for Poland (average & variance from 2015 to 2021)



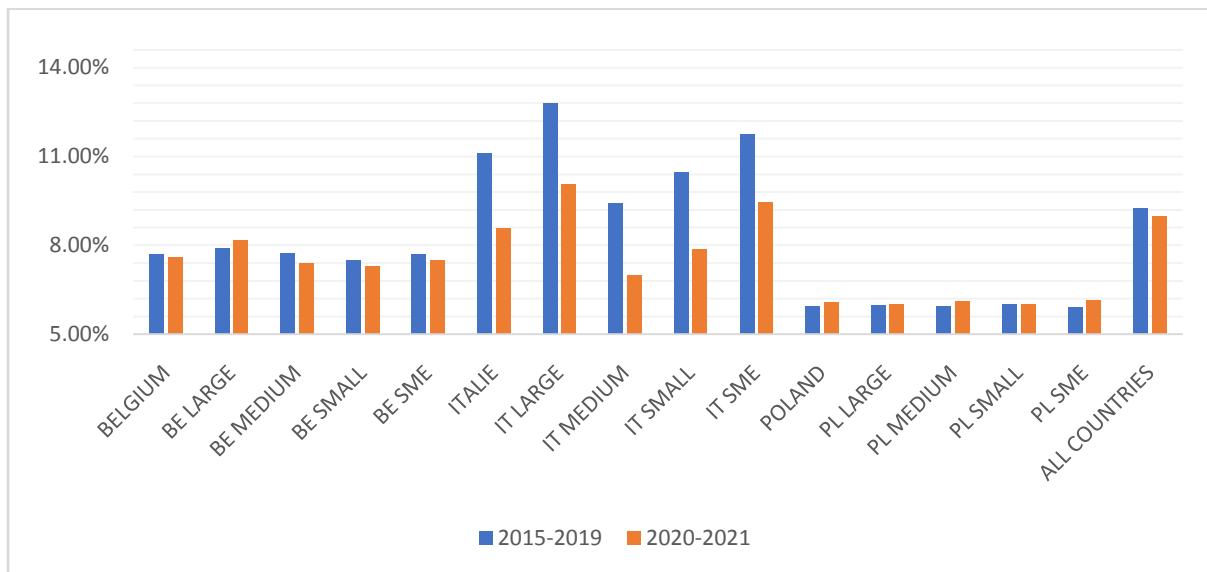
Source: prepared by the author

2. Financial debt(split between current and non-current part)

As for the net debt, the financial debt is split between current (**ratio 3b**) and non-current(**ratio 3c**).

For the current part, Poland follows a different pattern with an increase of the level of financial debt .

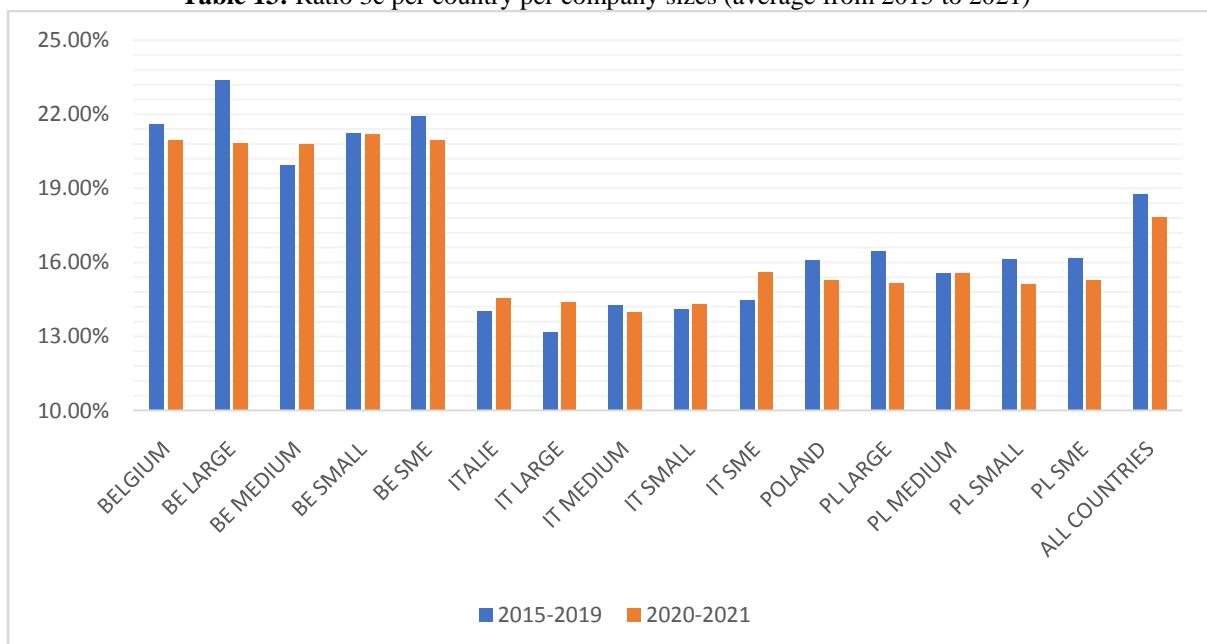
Table 12: Ratio 3b per country per company sizes (average from 2015 to 2021)



Source: prepared by the author

For the non-current part, the picture is different. Only for Italy, an increase is observed and it is true for almost all categories of firms (not for medium firms). For Belgium and Poland, the decrease is observed.

Table 13: Ratio 3c per country per company sizes (average from 2015 to 2021)



Source: prepared by the author

IV. DISCUSSION

The Poland ACE solution that has been implemented since 2020 was compared with regard to 2 countries, Belgium and Italy, which have an ACE implemented for a longer period of time.

With regard to the level of equity, the reform in Poland does not reach the expected result as the ratio has decreased for almost all firms. It seems that the reform has just a positive impact on larger firms. In any case, Poland has still the higher level of equity and it may be the reason why the reform was not followed by a larger impact on all firms.

The analysis was also carried out without the result of the year taken into account in the Equity. The purpose was to isolate the behaviour of firms towards equity and reserve and not to mix the analysis with the impact of the result of the year. The result is worse for Poland as no increase has been observed. In any case, Poland has still the higher level of equity and the previous explanation evoked could work also here.

Looking at the analysis per sector for Poland only, the previous observations are still valid. The only important fact to note here is the decrease in the variance observed in most sectors meaning the reform has induced a trend of greater stability.

Towards debt, for both net debt and financial debt, a decrease is observed for all countries and in that case also, Poland has the “best picture” with a lower level.

Due to the reform, Polish firms have not increased neither their equity nor their debt. It seems that the reform does not have a real effect on Polish firms. The level of the Threshold of PLN 250 000 is certainly too small to be really attractive to firms.

Fiscal implications and further studies

With a higher level of equity and a lower level of debt, it seems that the ACE in Poland limited to PLN 250 000 is too small to be a real game changer. At that moment, it appears that the level of Equity and the level of debt are a better level compared to the ones in Belgium or in Italy. It means that if Poland wants to enhance the level of Equity, a higher level of the threshold or a less restrictive one must be implemented to be effective.

ACE is a popular issue discussed in the literature and in the fiscal law. It will be beneficial for future studies to estimate the right level of the threshold to be efficient and the sensitivity of firms

towards it with the implication of the size parameters taken into the analysis.

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